Dynamic Cooking Systems, Inc.

THE PHOENIX 111 PATIO HEATER

Use and Care Guide

Models:

- CE-PHFS-DW-BK-L
- CE-PHFS-DW-BL-L
- CE-PHFS-DW-BZ-L
- CE-PHFS-DW-GN-L
- CE-PHFS-DW-SS-L
- CE-PHFS-DW-WT-L

A Message To Our Customers

We are glad you selected the Phoenix III by DCS. Because this appliance contains features not found on any other patio heater, we recommend that you read this entire booklet before your first use. Keep it in a handy place as it has answers to questions that may occur during future use. Feel free to contact us if we can help you. When you write please include the model number of the heater. We thank you for buying the patio heater Made in America and wish you many years of enjoyment.

To help serve you better, please fill out and return the Ownership Registration Card and keep this guide handy, as it will help answer questions that may arise as you use your DCS Phoenix III.

For your convenience, product questions can be answered by a DCS Customer Service ***Representative by phone: 1-714-372-7000, or Fax: 714-372-7003,***

or by mail:
DCS
Attention Customer Service,
5800 Skylab Road, Huntington Beach, CA 92647

WARNING

If the information in this manual is not followed exactly, a fire or explosion may result causing property damage, personal injury or death.

PRECAUTION

Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

WARNING

Improper installation, adjustment alteration, service or maintenance can cause property damage, injury or death. Read the installation, operating and maintenance instructions thoroughly before use, installing or servicing this equipment. For outdoor use only.

FOR YOUR SAFETY WHAT TO DO IF YOU SMELL GAS

- Shut off gas to the appliance.
- Extinguish any open flame.
- If odor continues, immediately call your gas supplier.

PLEASE RETAIN THIS MANUAL
FOR FUTURE REFERENCE.

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- Read and become familiar with the entire manual.
- Do not use in an explosive atmosphere, keep heater away from areas where gasoline or other flammable liquids or vapors are stored or used.
- Before each use check for damaged parts such as hoses, regulators, pilot or burner.
- Do not attempt to alter unit in any manner, ie: shorten post length, bypass safety valve or operate heater without the reflector.
- Heater must always be placed on a hard and level surface.
- Always maintain proper clearance to combustible materials. (Top 19'' sides and rear 27"), see page 11.
- Never replace or substitute the regulator with any other regulator other than a factory suggested replacement.
- It is imperative that the control compartment, burners, and circulating air passageways of the heater must be kept clean. The heater should be inspected before each use, and at least annually by a qualified service person, for the presence of spiders, webs or other insects. The burner area is a common and desired spider haven. Spider webs can present a dangerous condition which can damage the heater and render it unsafe for use.

CHECK THE HEATER IMMEDIATELY IF ANY OF THE FOLLOWING CONDITIONS EXIST

1) The smell of gas in conjunction with extreme yellow tipping of the burner flames.
2) The heater does not reach temperature.
3) The heater glow is excessively uneven.
4) The burner makes popping noises during use. (a slight popping noise is normal when the burner is extinguished).

- Installation must be carried out in accordance with local regulations in force.
- Do not clean heater with combustible or corrosive cleaners.
- Do not use if wind velocity is greater than 10 miles per hour, because of flame out possibility.
- To avoid the risk of burns or accidental clothing ignition, do not touch the heater anywhere near the burner assembly during operation.
- Do not touch the burner assembly or reflector shield until after the heater has cooled for approximately 20 minutes after use.
- Carefully monitor young children in the vicinity of any operating heater.
- Never connect an unregulated gas supply.
- Always ensure that there is ample fresh air ventilation. this unit is for outdoor use only.
- Do not hang clothing or any other flammable materials from, on, or near the heater.
- A minimum inlet pressure must not exceed 100 psi.
- The heater is shipped from the factory for LP use. never substitute gases without first converting the heater with a factory supplied conversion kit.
- A minimum supply pressure of 37 mbar is required for the purpose of input adjustment.
- Do not paint either the emitter screen, valve panel or reflector.
- All leak tests should be done with a soap solution.
- Matches should never be used for this purpose.
- The LP tank should be turned off when the heater is not in use.
- Do not install unit in basements or below ground level.
- Avoid twisting the flexible tube. Regularly check the gas supply hose for wear, replace as necessary.
- Servicing must be carried out by a qualified technician.

- Weatherproof
- Uniform Heat Pattern
- Durable Non-Slip Wheels
- Piezo Spark Ignition
- Heats (16'-20') Diameter Area
- Uses 13 kg LP Tank ***(not included)***
- All High Heat Parts Made Of Stainless Steel
- Flame Out Protection Safety Control Valve
- Weighted Base For Stability / Low Maintenance
- Easy Access Door With A Positive Latch
- Large Stainless Steel Emitter Grid
- Easy Access Door With A Positive Latch

TOOLS NEEDED

- Phillips Head Screwdriver
- Pipe Wrench (2" or larger)
- Channel Lock Pliers (Min. 2" Capacity)
- Open End (7/16", 3/4", 7/8", and 15 /16" Wrenches

FASTENER DIRECTORY				
ITEM	PICTORIAL	DESCRIPTION	PART NUMBER	QTY.
1		1/4-20 ACORN NUT	15019-02	4
2		1/4-20 BOLT	15003-06	8
3		WASHER - FLAT - SS	15005-15	12
4		WASHER - SPLIT - SS	15005-10	4
5		no. 10 - 24 X 1/2 S/S SCREWS	15001-26	3
6		1/4-20 KEPS NUT	15021-09	12
7		NYLON WASHER	15005-08	8

GAS SPECIFICATIONS

SPECIFIED CATEGORY AND DELIVERY PRESSURES:			
GAS CATEGORY	OPERATING PRESSURE	COUNTRY	INJECTOR SIZE
1 3P	37 mbar	GB, IE, FR, BE, PT, ES, CH	50 DMS
1 3P	50 mbar	NL, ES	52 DMS
1 3B/P	30 mbar	DK, SE, FI, NL	50 DMS
1 3B/P	50 mbar	FR, DE, CH, AT	53 DMS

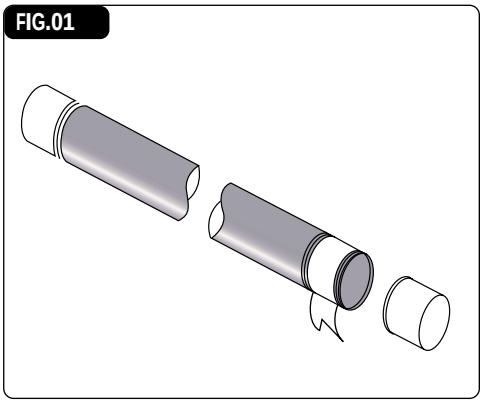
UNIT GROSS INPUT RATING		
G31 PROPANE	43,000 Btu / hr	12.6 Kw
G30 BUTANE	43,000 Btu / hr	12.6 Kw

NOTE: *Assembly of this heater requires basic mechanical skills. Proper assembly is the responsibility of the installer.*

STEP 1

Remove all individual components from all cartons. Dispose of the remaining packaging.

FIG.01



STEP 2

Remove one protective end cap from the intake pipe, make certain pipe threads remain wrapped with white teflon tape.

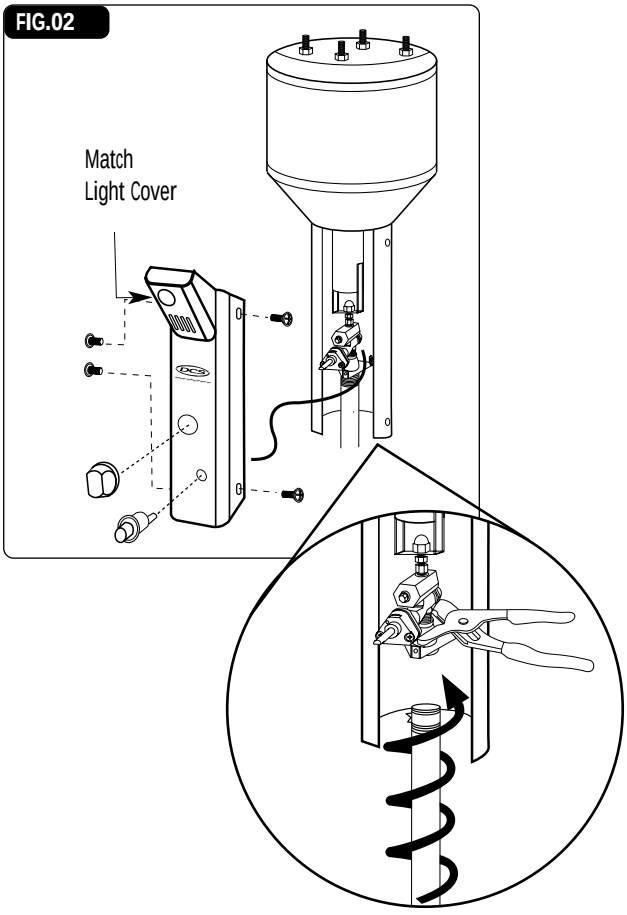
- Do not tape over the first two threads at the of the intake pipe (fig. 01)

STEP 3

Locate the heater head assembly. Place the head assembly on a stable horizontal surface. Please allow for the entire length of the patio heater when establishing a work area (i.e. workbench, floor). Remove valve panel by removing the knob then the (4) screws. Be careful when removing valve panel so as not to tug on igniter wire that is still attached. Carefully remove wire, (attached with a push/pull connection).

Firmly holding the safety valve with channel lock pliers, thread the intake pipe clockwise into safety valve until tight. Reattach the valve panel and continue to step 4 to attach the post assembly.

FIG.02



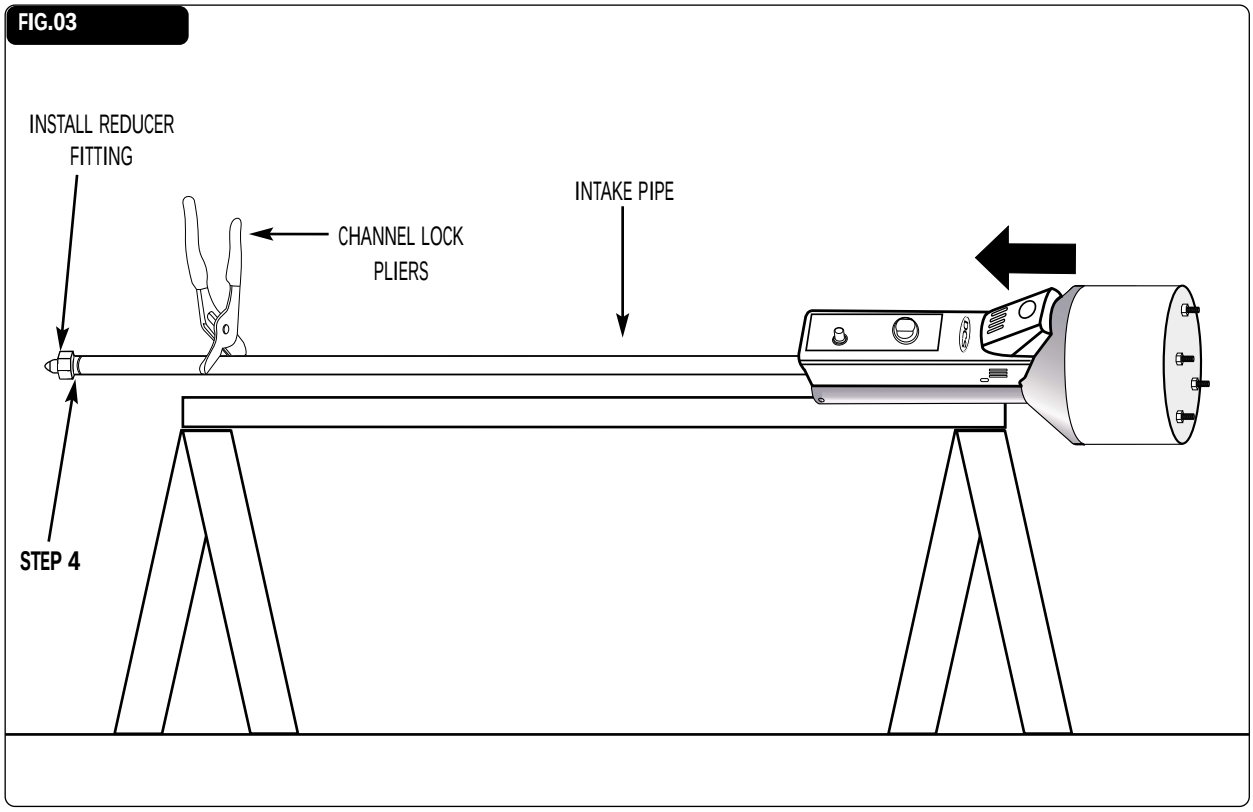
STEP 4

Remove the protective endcap at the bottom of the intake pipe. Make certain that the threads remain bare. Locate the reducer fitting and thread it onto the open end of the intake pipe. Hold the intake pipe above the threads with your channel lock pliers and tighten the reducer fitting clockwise onto the intake pipe.

HARDWARE USED

1) P/N 18159 Reducer Fitting (1)

FIG.03

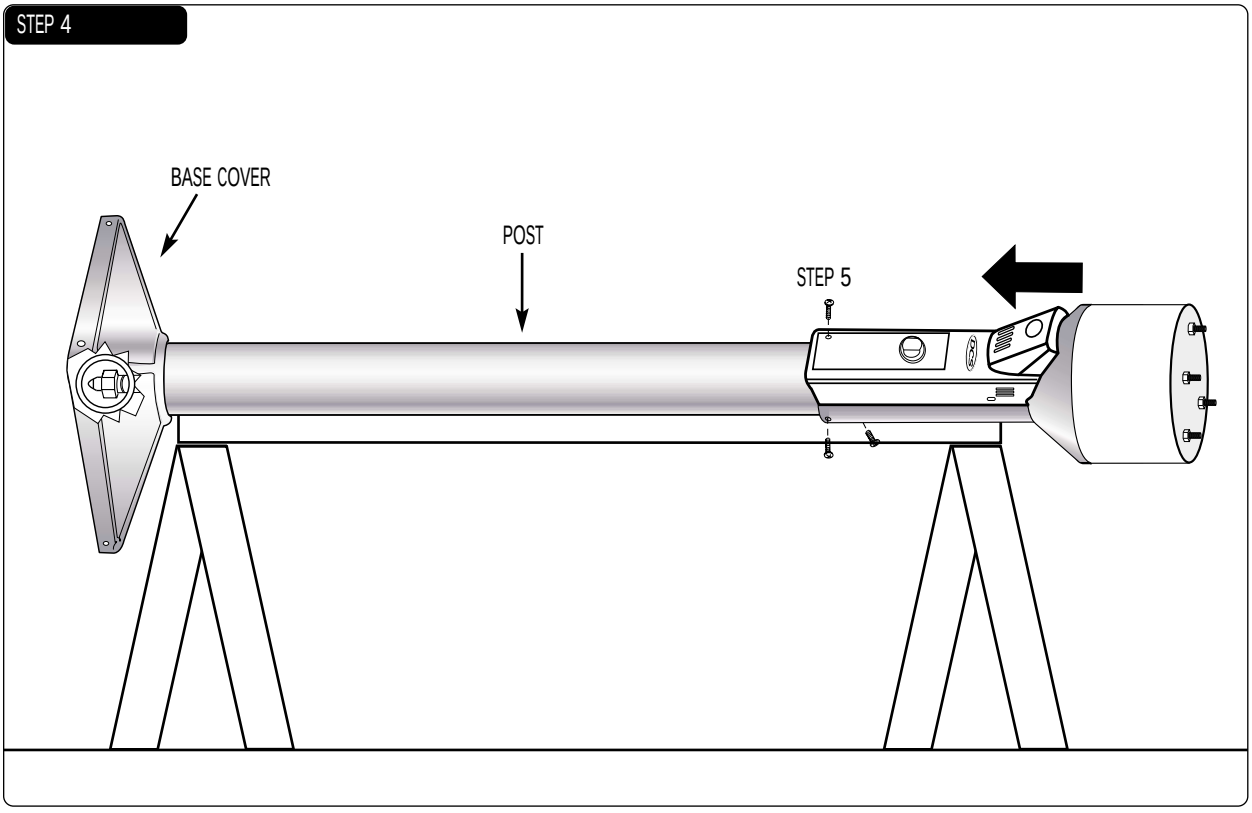


STEP 5

Locate the post assembly. **Carefully** insert the intake pipe through the top of the post assembly being careful not to allow the head assembly to slide too far down the post as undue scraping may occur. Align the screw holes on the panel of the burner head and the post assembly. Fasten the burner and post with the #10 screws.

HARDWARE USED

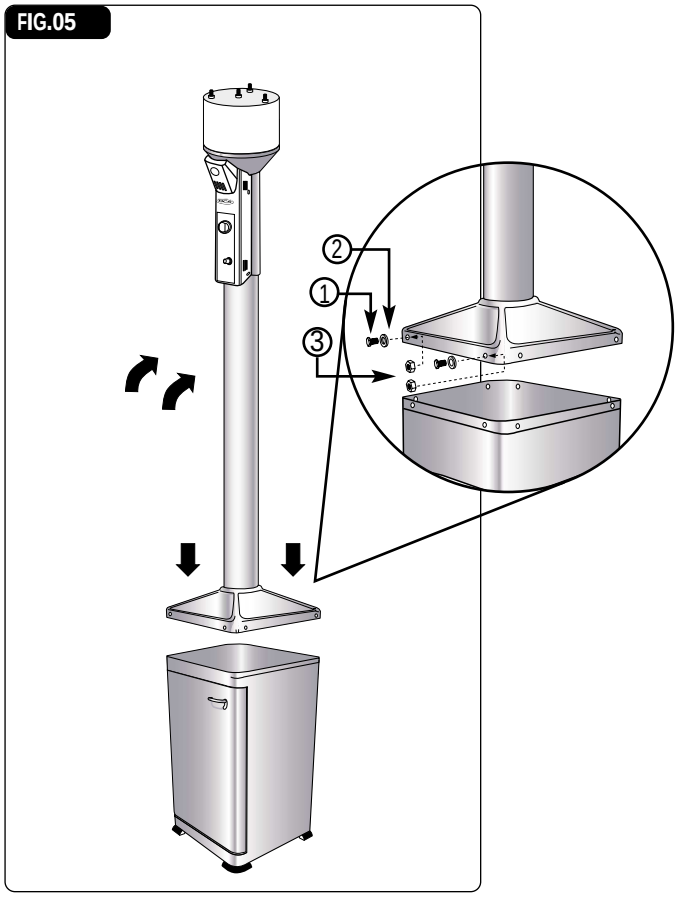
1) P/N 15001-26 #10 Machine Screws (3)



STEP 6

To join the post assembly with base cabinet you will need to place the base upright on the floor and lift the post assembly and place it onto the cabinet with the burner panel facing the same side as the door. Tighten the (8) nuts and bolts at the bottom of post assembly to the top of the cabinet base. Replace valve panel utilizing step 2 in the reverse order.

FIG.05



HARDWARE USED

1) P/N 15003-05 1/4-20 Bolts (8)
2) P/N 15005-08 Washers Nylon (8) (Painted Models Only)
3) P/N 15021-09 1/4-20 Keps Nuts (8)

STEP 7

Hold the reducer fitting with a 15/16" wrench and tighten the hose / regulator assembly onto the reducer fitting. (Not included)

STEP 8

Do not attach the reflector shield until all leak testing has been completed. This unit is tippable once the post assembly is fastened to the cabinet base and could damage or misshapen the reflector shield prior to use.

FIG.06

The heater comes equipped with a regulator/hose assembly for connection to a standard 13kg gas tank **(not included)** and 18" tank strap to secure the tank within the base. A dented or rusty LP tank may be hazardous and should be checked by your LP supplier.
Never use an LP tank with a damaged valve. The LP tank must be arranged to provide for vapor withdrawal from the operating cylinder.
Never connect an unregulated LP tank to the heater. The heater is shipped from the factory for LP use, never substitute gases without first converting the heater with a factory supplied conversion kit. Conversion kits are available through customer service.

LP GAS CONNECTION-REFERENCE

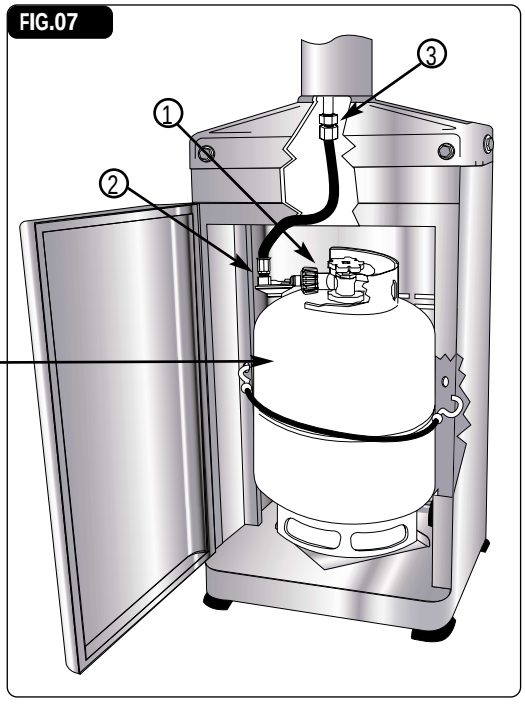
The heater is designed to house a 13 Kg. gas cylinder in the base assembly. Open the door, and place the cylinder into the housing. The regulator can then be screwed into the cylinder. The regulator and the tank have right-handed threads (clockwise to tighten no teflon tape is required). When tightening be careful not to put too much force on the cylinder valve.

CHECK THE FOLLOWING CONNECTIONS

1) Regulator to gas cylinder.
2) All connections on the hose/regulator assembly.
3) The reducer fitting and the intake pipe.
4) Intake pipe fitting at base of safety valve. The remaining connections are to be tested after the heater has been lit. (See lighting instructions on page 12).
5) Pilot tubing to safety valve.
6) Orifice fitting and Safety valve.
7) Pilot tubing and the pilot. Once leak tested, close the door and replace the valve panel.

NOTE: *Gas connections on the heater head assembly are leak tested at the factory prior to shipment.*

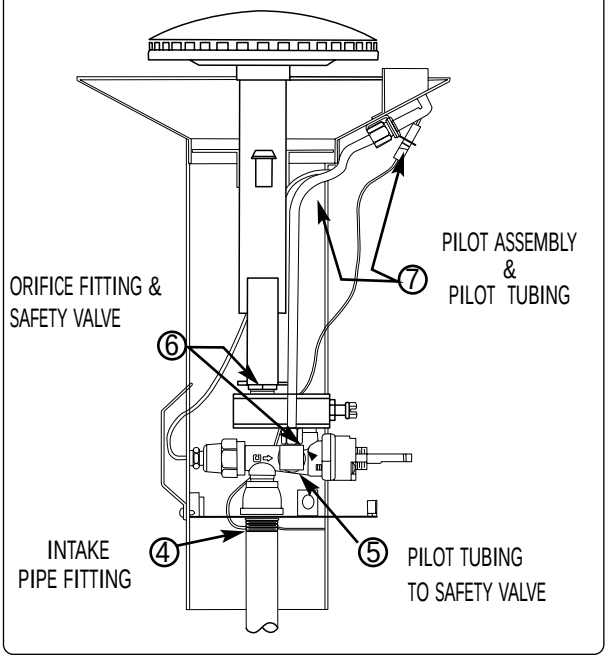
FIG.07



PRECAUTIONS

- Periodically check the whole gas system for leaks or immediately check if the smell of gas is detected.
- Extinguish all open flames
- Never leak test while smoking. If you can not stop a leak, turn off the cylinder valve and call the dealer you purchased the heater from or customer service.
- Do not use heater until all connections have been leak tested and do not leak.
- When leak testing, refer to the connections diagrams below.
- Only those parts recommended by the manufacturer should be used.
- Substitution of parts can **void** warranty.

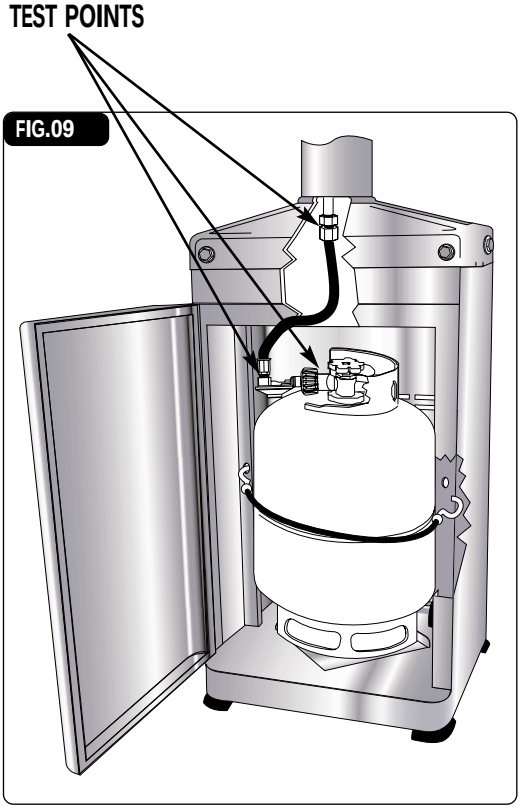
FIG.08



LEAK TEST

Make a soap solution of one part liquid detergent, and one part water. The soap solution can be applied with a spray bottle, brush or rag, soap bubbles will appear where a leak is present. Make sure the safety valve control knob is in the "OFF" position. Turn the gas supply on check for leaks at leak point. If a leak is present, turn off supply, tighten any leaking fittings, turn gas on and recheck.

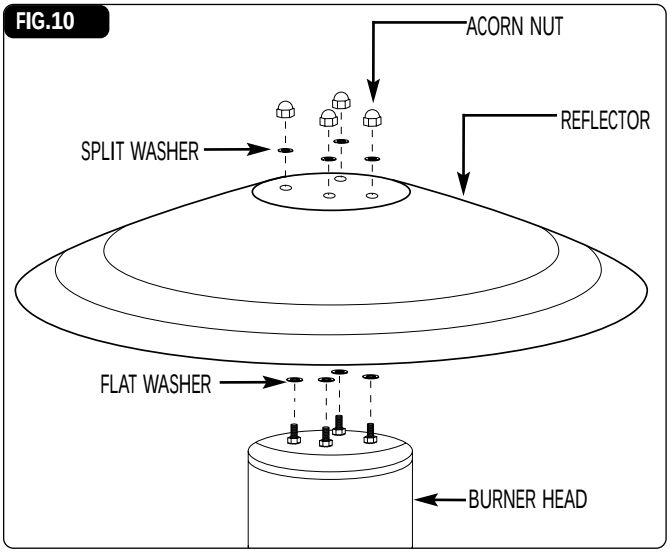
FIG.09



STEP 9

Locate the cap nuts, washers (4 ea.) and reflector shield. Tip the heater backwards and support it with stable horizontal surface (i.e. sawhorse, workbench step ladder).
Install the reflector shield with the cap nuts and washers. *Use caution not to over-tighten or damage the reflector.* Return the unit to its upright position and continue to the next section for recommended locations and usage.

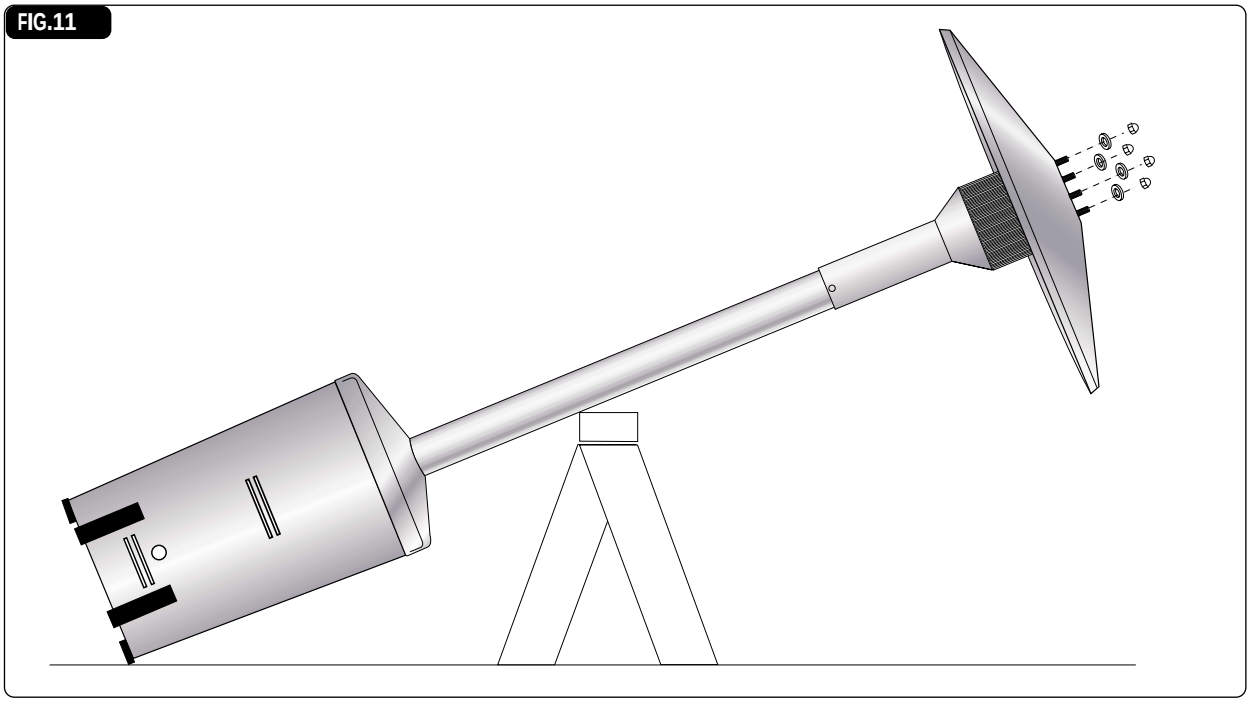
FIG.10



HARDWARE USED

1) P/N 15005-15 Washers - Flat (4)
2) P/N 15019-07 1/4 Cap Acorn Nuts (4)
3) P/N 15005-10 Washers - Split (4)

FIG.11



Locating Heater For Use

This outdoor heater is primarily for temporary heating of outdoor patios, decks, spas, pool, and work areas.

This heater is not intended for indoor use or enclosed area use.

Always ensure that adequate fresh air ventilation is provided.

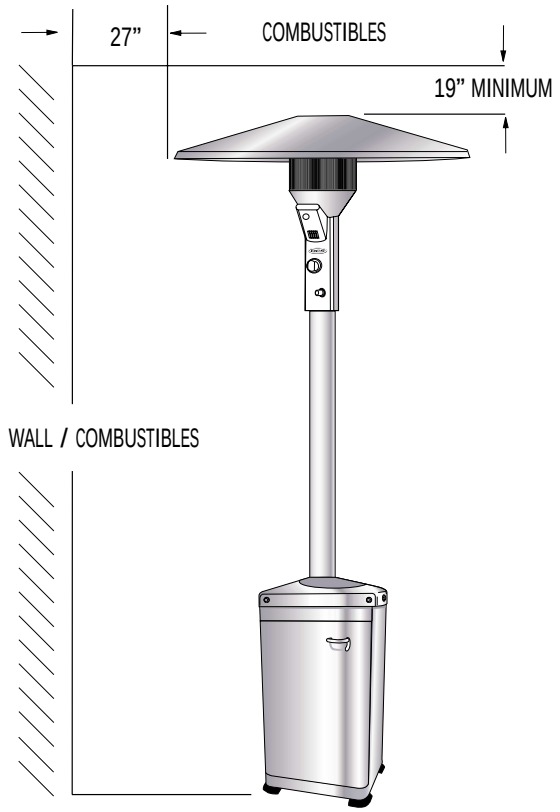
The minimum clearances to combustible construction shown here must be maintained at all times.

The installation must conform to local codes, or in the absence of local codes, with the standard for the storage and handling of liquefied petroleum gases.

CAUTION: *The heater must be placed on level, firm ground.*

WARNING: *Never operate in an explosive atmosphere keep away from areas where gasoline or other flammable liquids or vapors are stored or used. Heater will engage the ground and start to roll once a minimum angle from center is established.*

FIG.12



BEFORE TURNING THE GAS SUPPLY "ON"

Visually inspect the hose assembly for evidence of excessive abrasion, cuts or wear. If the hose leaks it must be replaced prior to use. The replacement hose assembly shall be that specified by the manufacturer. Make sure the surrounding areas are free of combustible materials, gasoline and other flammable vapors or liquids.

BEFORE LIGHTING

For your safety, if relighting a hot heater, always wait 5 minutes. The heater should be inspected (emitter screen, gas hookup, pilot assembly) before each use, and at least annually by a qualified service person.

To light:

1) Open door.
2) Make sure regulator hose is connected to the heater intake pipe and regulator is connected to the LP tank with both connections tight and leakproof.
3) Turn supply tank valve in a counter-clockwise direction. Check for leaks by applying soapy water to the tank and hose connections.
4) Turn control knob counter clockwise to the pilot position.
5) Depress and hold in the control knob to begin pilot gas flow, hold in the control knob for (3) minutes on new installations or cylinder changes to purge air from the lines, or (5) seconds for regular relight.
6) While depressing knob, depress the igniter button which will snap indicating it has produced a spark which should light the pilot. If not, depress control again and depress the igniter until lit or match light. The pilot is located behind the match hole cover. Rotate the disc upward from the hole for match lighting or viewing (see figure 2 on page 5).
7) Once the pilot is lit, continue to hold in the control knob for 30 seconds or until the pilot remains lit after knob is released.
8) The burner may now be turned on to the full on position (all the way counter-clockwise) and then reduce to the desired heat range.
9) Close door.

Relighting:

1) Turn control knob to off position.
2) Wait (5) minutes before attempting to relight pilot.
3) Repeat steps beginning with step (4) above.

Shut down instructions:

1) Turn control knob clockwise to the off position, the burner will make a slight popping sound when extinguished. This is a normal condition.
2) Turn LP-tank gas valve clockwise to "OFF" position when heater is not in use.

NOTE: *When storing the heater, the connection between the LP cylinder and the heater must be disconnected and the LP cylinder removed and stored outdoors in a well ventilated area*

SPIDER & INSECT WARNING:

Spiders or insects can nest in the burners or orifices of this or any outdoor gas appliance. This is a very dangerous condition which can damage the heater and render it unsafe for use. You must inspect the burner at least once a year or immediately if any of the following conditions occur:

1) The smell of gas in conjunction with extreme yellow tipping of burner.

2) The heater does not reach temperature.

3) The heater glow is excessively uneven.

4) The burner makes popping noises.

If blockage exists, clean the burner immediately (see page 14).

CLEANING:

Cleaning must be done when the heater is **COLD**. Your heater will last longer if maintained properly. It is important that the flow or combustion air must never be obstructed. Orifices and air openings must be kept free of dirt and spiderwebs. **NEVER** use a cleaning agent which is flammable or corrosive.

DCS recommends on painted models that the heater body components; below the stainless steel burner head (post, door, and cabinet base) are periodically protected with a coat of automobile wax. If repainting is necessary, paint only the post/base assembly. Do not paint the safety valve cylinder, valve panel or instruction plate.

The ports of the burner head must remain clear so that the gas flow is unrestricted. The air inlet of the venturi tube must also be kept clear for combustion air supply. If the heater is not performing properly it may be necessary to clean the burner. See the next section for burner removal.

NOTE: *Unit must be cold before removal*

BURNER REMOVAL

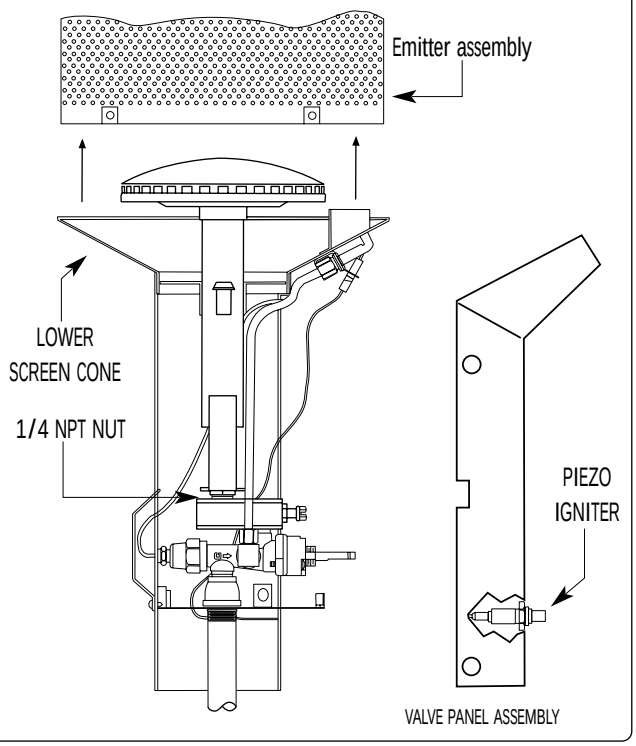
1) Remove reflector and emitter assembly by removing the screws that fasten the emitter assembly to the lower screen cone.

2) Remove valve panel; avoid tugging the ignition wire attached to backside of the valve panel at the igniter.

3) Remove the 1/4 NPT nut (using a 7/8 open end wrench) which holds the burner head to the orifice fitting. Remove the burner.

Any debris in the opening of the burner assembly can be cleared with a straightened piece of coat hanger. Any rust can be removed with a wire brush. Never use wood or plastic objects to clear ports, wood or plastic can break and block the ports.

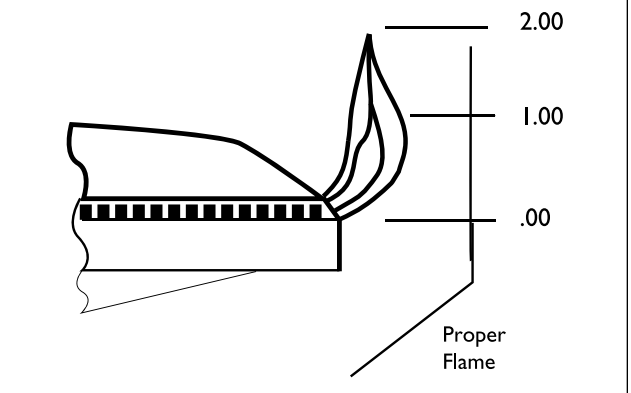
FIG.13



BURNER INSTALLATION

Install the burner assembly by reversing the (4) steps used for disassembly making certain the burner assembly stands centered when complete. After reassembly, the heater should be tested observe the burner flame. It should be as shown with the flame being blue with slight yellow tipping.

FIG.14



Pilot Cleaning

When storing the heater the connection between the LP cylinder and the heater must be disconnected and the LP cylinder removed and stored outdoors in a well ventilated area.

1) Removing the valve panel to gain access to the pilot. (see figure 2 on page 5).

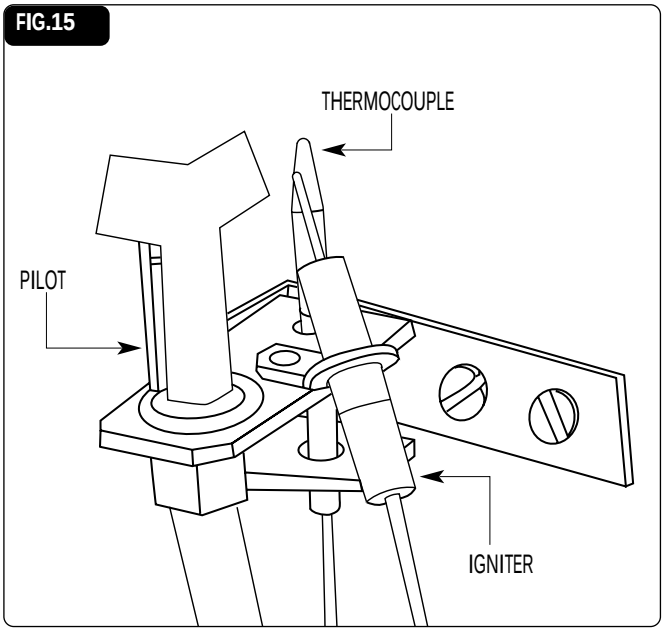
2) Remove the screw which fastens the pilot to the lower screen cone.

3) Hold the pilot with pliers, loosen and remove the nut at the base of the pilot.

4) Inspect the pilot and tubing for blockage, you should be able to see through the pilot. If obstructed by debris clear with a piece of wire.

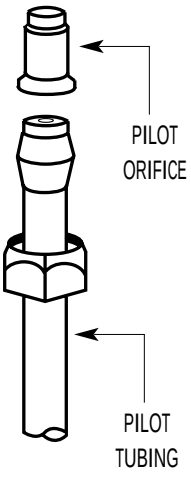
5) The cap-like pilot orifice can be cleaned with a sewing needle. Use the needle gently on inside of the orifice to clear debris. **Never** enlarge the opening of the pilot orifice.

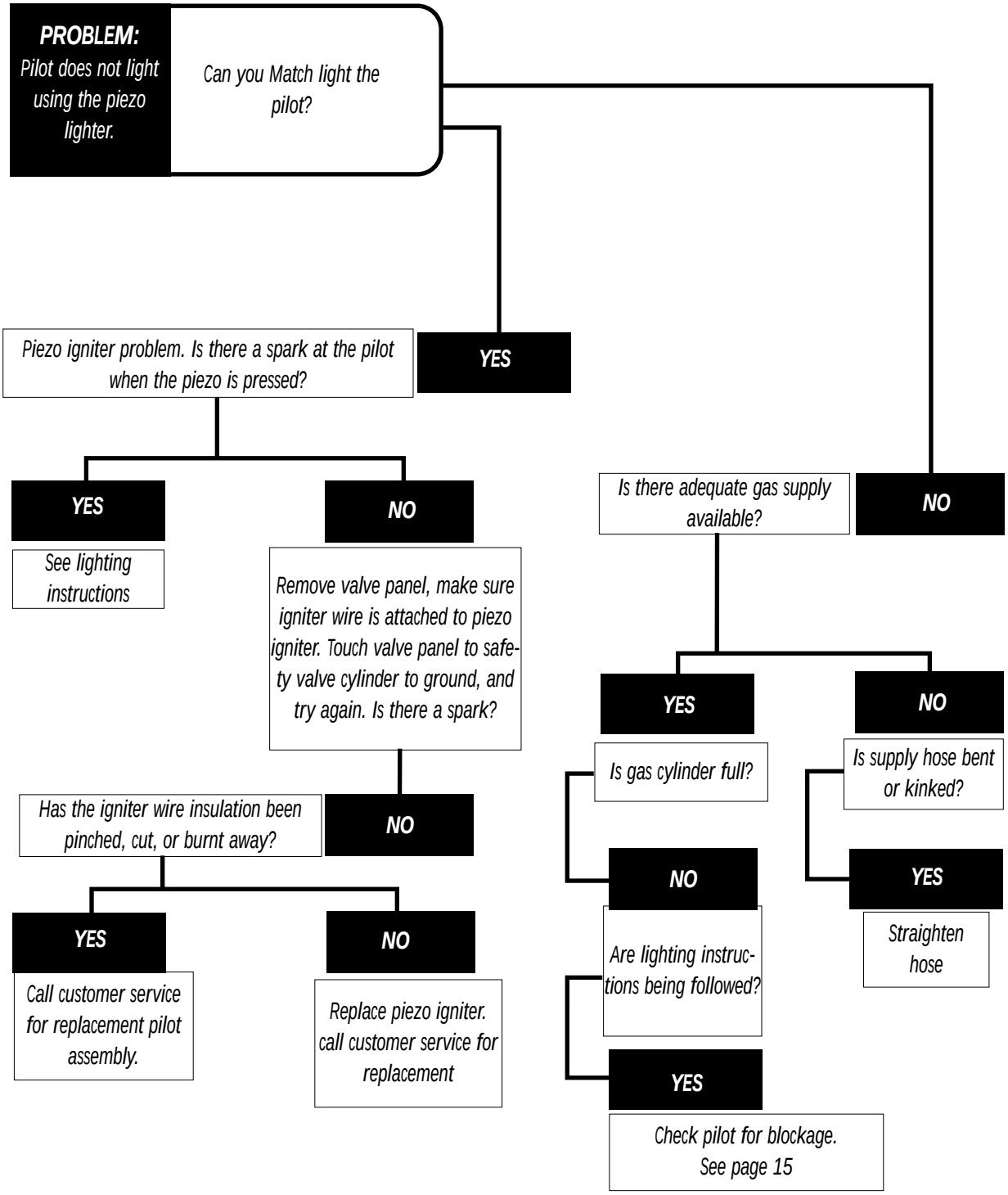
FIG.15

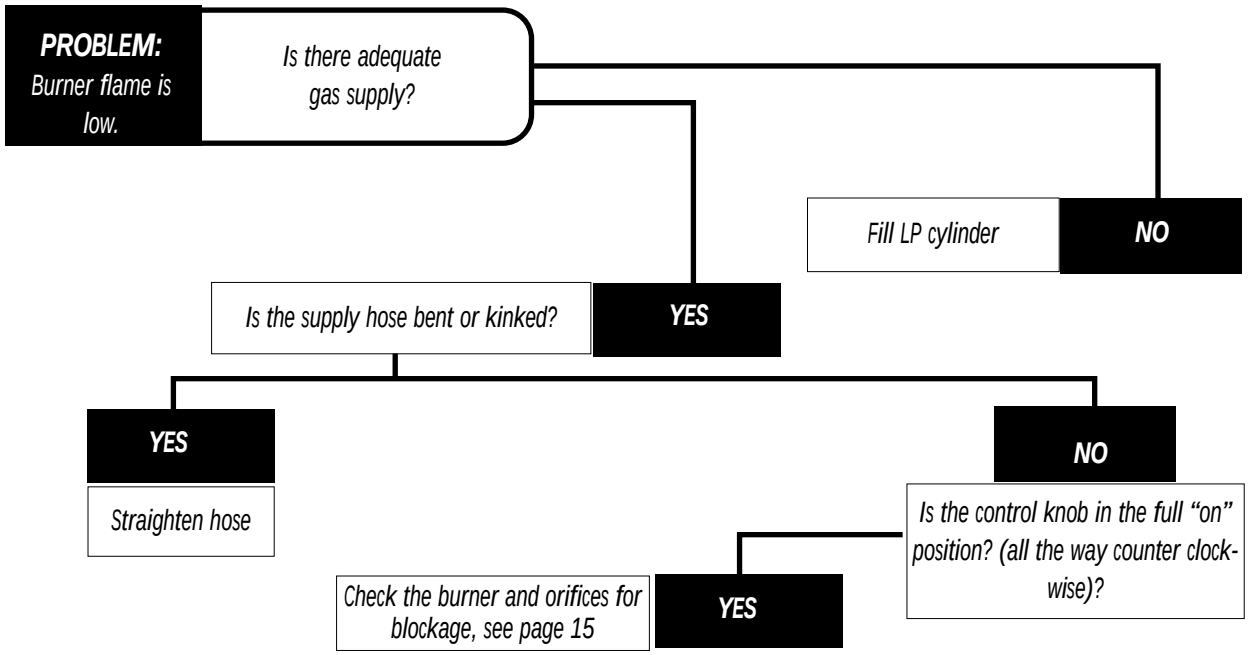


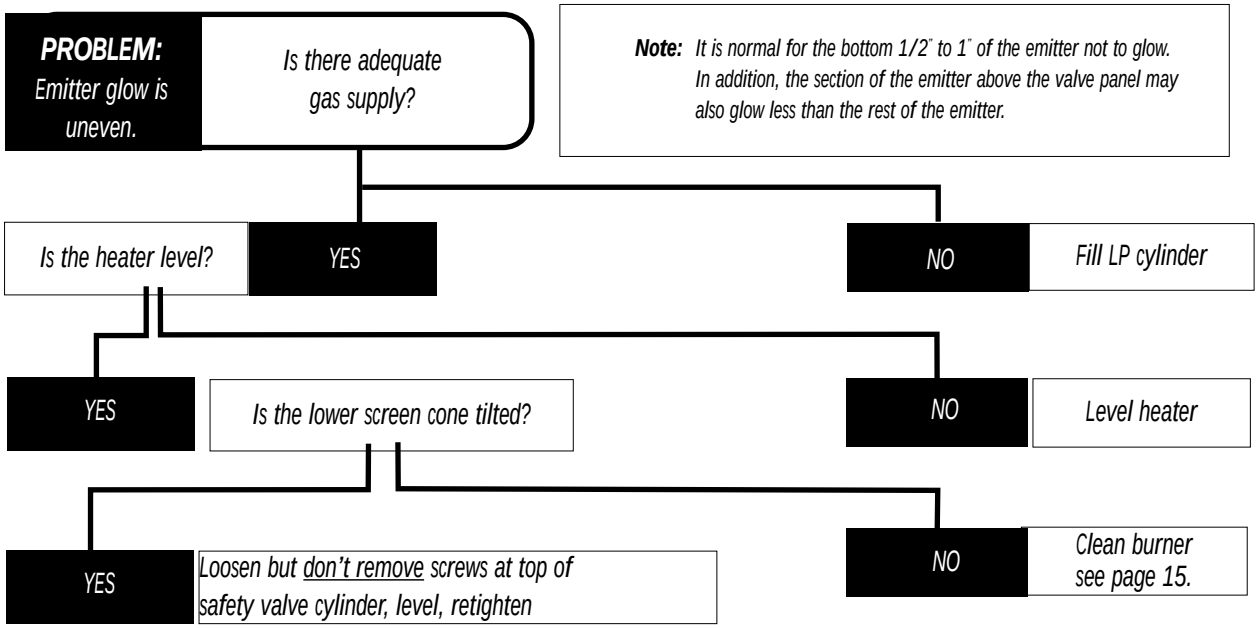
The pilot burner provides a flame to light the main burner. It also heats a thermocouple which must be hot before allowing the main burner to come on. If the pilot is blocked (by debris, spider webs, etc); the pilot flame may be small and the thermocouple may not heat up enough for the main burner to come on. If this occurs it will be necessary to clean the pilot.

FIG.16



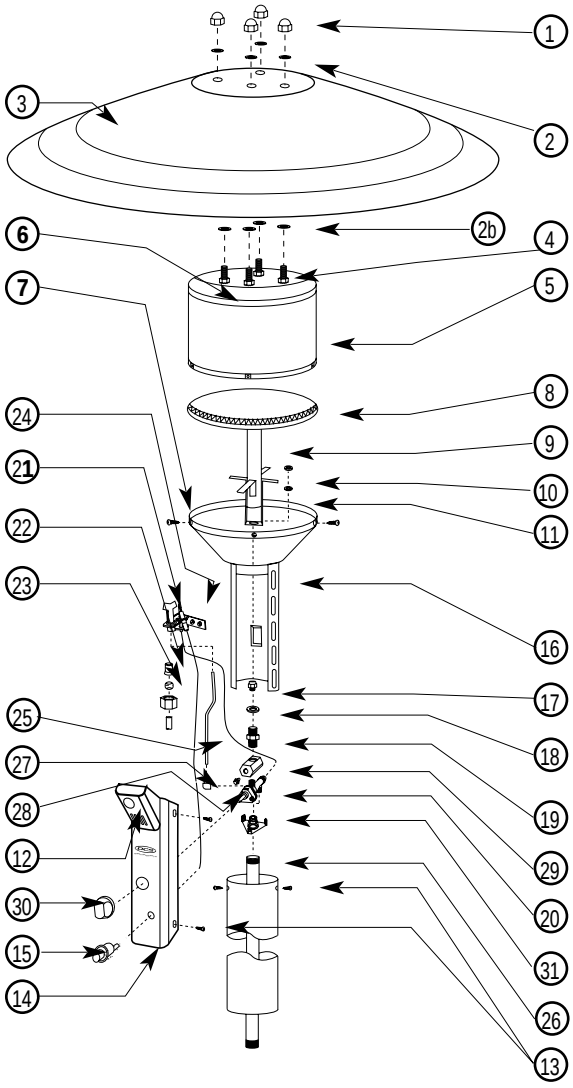

PROBLEM:
Pilot does not light using the piezo lighter.
Can you Match light the pilot?
YES
Piezo igniter problem. Is there a spark at the pilot when the piezo is pressed?
YES
See lighting instructions
NO
Remove valve panel, make sure igniter wire is attached to piezo igniter. Touch valve panel to safety valve cylinder to ground, and try again. Is there a spark?
NO
Has the igniter wire insulation been pinched, cut, or burnt away?
YES
Call customer service for replacement pilot assembly.
NO
Replace piezo igniter. call customer service for replacement
NO
Is there adequate gas supply available?
YES
Is gas cylinder full?
NO
Are lighting instructions being followed?
YES
Check pilot for blockage.
See page 15
NO
Is supply hose bent or kinked?
YES
Straighten hose


PROBLEM:
Burner flame is low.
Is there adequate gas supply?
NO
Fill LP cylinder
YES
Is the supply hose bent or kinked?
YES
Straighten hose
NO
Is the control knob in the full "on" position? (all the way counter clock-wise)?
YES
Check the burner and orifices for blockage, see page 15


PROBLEM:
Emitter glow is uneven.
Is there adequate gas supply?
Note: It is normal for the bottom 1/2" to 1" of the emitter not to glow. In addition, the section of the emitter above the valve panel may also glow less than the rest of the emitter.
Is the heater level?
YES
NO
Fill LP cylinder
YES
Is the lower screen cone tilted?
NO
Level heater
YES
Loosen but don't remove screws at top of safety valve cylinder, level, retighten
NO
Clean burner see page 15.

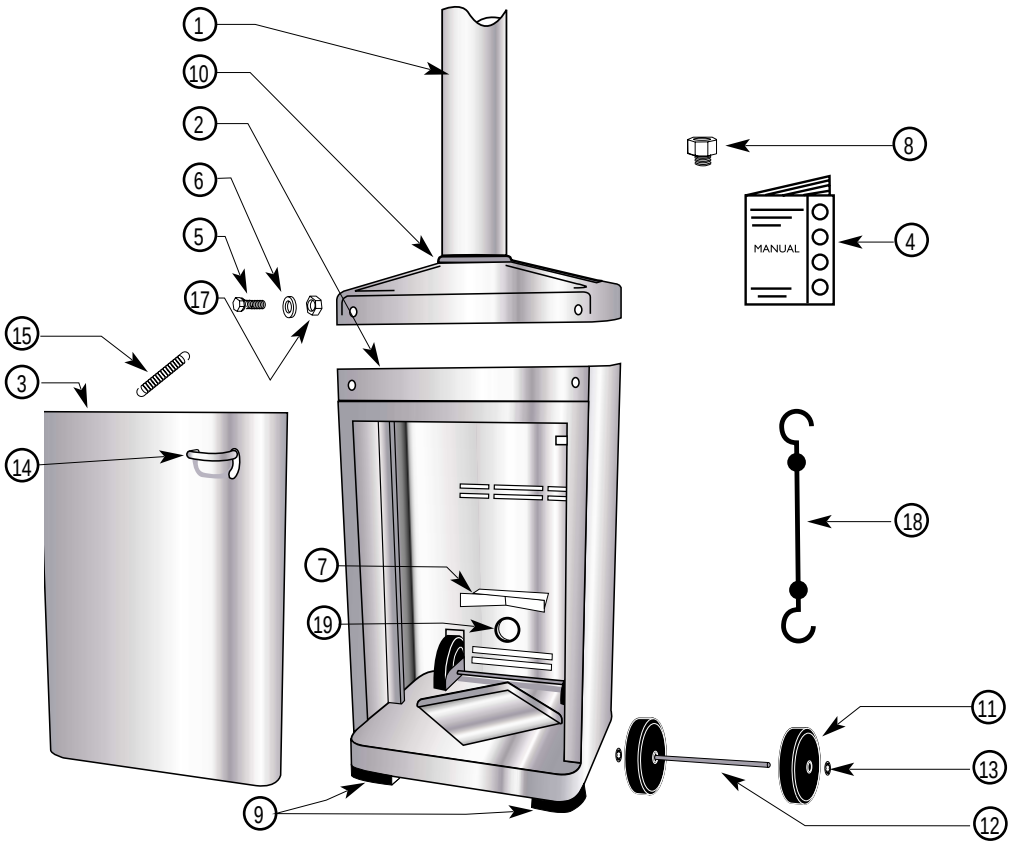
Parts List

ITEM	PART NO.	DESCRIPTION
1.	15019-07	1/4-20 Acorn Nut
2.	15005-10	Split Washer
2.b	15005-15	Flat Washer
3.	23002-SP	Reflector
4.	15021-09	1/4-20 Keps Nut
5.	23018-01	Emitter Assembly
6.	15003-15	Bolt 1/4-20 x 3/4
7.	15001-26	Screw #10-24 x 1/2
8.	12015	Burner Head
9.	23083	Burner Assembly
10.	15077	Nut 1/4 NPT
11.	15005-23	Internal TH.Washer, 08
12.	23024	Match Hole Cover
13.	15001-26	Screws 10-24 x 1/2
14.	23064	Valve Panel Assembly
15.	16025-4	Piezo Igniter
16.	23080	Lower Screen Cone Assy.
17.	13025-XX	Orifice LP Gas (refer gas spec. table pg.4)
18.	15005-25	Flat Washer
19.	13024	Orifice Fitting
20.	13066	Safety Valve
21.	13231-01 LP	Pilot Weld Assembly
22.	13028-10	Pilot Orifice LP Gas
23.	13027	1/4 Tubing Ferrule
24.	13229	Thermocouple
25.	23094	Pilot Tubing
26.	18018-03	Intake Pipe
27.	18184	90° Elbow
28.	13226	Test Point
29.	18181	Valve Block
30.	14154-01	Knob
31.	23065	Valve Support Bracket



ITEM	PART NO.	DESCRIPTION
1.	23121-XX	Post Assembly (1)
2.	23096-XX	Base Assembly (1)
3.	23106-XX	Door (1)
4.	17314	Manual (1)
5.	15003-15	1/4-20 Bolt (8)
6.	15005-8	Nylon Washer (8)
7.	23112	Tank Retainer
8.	18159	Reducer Fitting (1)
9.	18290	Rubber Foot (4)
10.	23122	Rubber Collar (1)
11.	18143	6” Wheel (2)
12.	23112	Axle (1)
13.	18023	Cap Nuts (2)
14.	18024-03	Door Handle (1)
15.	23119	SS Spring (1)
16.	23108	Latch Bracket (1)
17.	15021-09	1/4-20 Hex Nut (8)
18.	23114	18” Tank Strap (1)
19.	14088	Grommet (1)

Note : Please specify your model color when reordering post, base assembly, or door (items 1-3).



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As product improvement is an ongoing process at DCS, we reserve the right to change specifications or design without notice.

Part No. 17379 Rev. B
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